

WHAT IS CLAIMED IS:

- 1    1.     A method for synchronizing operations in a computer environment with  
2     accompanying audio, said method comprising:
  - 3         replaying said operations and said accompanying audio in said  
4         computer environment, said operations resulting from processing of recorded user  
5         inputs;
  - 6         creating a synchronization point at a common point in said replaying  
7         of said operations and said accompanying audio; and
  - 8         associating said synchronization point with said accompanying audio,  
9         said synchronization point providing a reference point to substantially synchronize  
10      said accompanying audio when said operations are replayed in a replay computer  
11      environment using said recorded user inputs.
- 1    2.     The method of claim 1 wherein said creating of said synchronization point  
2     includes creating said synchronization point in response to a user command.
- 1    3.     The method of claim 1 wherein said common point is at a point in time where  
2     there is no audio output during said replaying of said accompanying audio.
- 1    4.     The method of claim 1 further comprising obtaining a current time value  
2     associated with said processing of said recorded user inputs, said current time value  
3     corresponding to said synchronization point.
- 1    5.     The method of claim 1 further comprising saving said synchronization point  
2     in a first file containing said accompanying audio, said first file being different than a  
3     second file containing said recorded user inputs.

1       6.     The method of claim 1 further comprising changing a time value of said  
2     synchronization point in response to a positional change of a marker of said  
3     synchronization point in a timeline.

1       7.     The method of claim 1 further comprising:  
2              detecting said synchronization point during a subsequent replay of said  
3     operations and said accompanying audio in said replay computer environment, said  
4     subsequent replay involving another processing of said recorded user inputs;  
5              comparing said synchronization point with a time value associated  
6     with said another processing of said recorded user inputs; and  
7              selectively pausing said subsequent replay of said accompanying audio  
8     if a difference between said synchronization point and said time value exceeds a  
9     predefined amount so that said subsequent replay of said operations can catch up to  
10    said accompanying audio.

1       8.     The method of claim 7 further comprising resuming said subsequent replay of  
2     said accompanying audio if a difference between said synchronization point and a  
3     current time value exceeds a second predefined amount, said current time value being  
4     associated with said another processing of said recorded user inputs.

1       9.     The method of claim 8 wherein said second predefined amount equals said  
2     predefined amount.

1       10.     A method for synchronizing operations in a computer environment with  
2     accompanying audio, said method comprising:

3                 replaying said operations in said computer environment, including  
4     replaying said accompanying audio, said operations resulting from processing of  
5     recorded user inputs;

6                 detecting a synchronization point during said replaying of said  
7     accompanying audio;

8                 comparing said synchronization point with a time value associated  
9     with said processing of said recorded user inputs; and

10                selectively pausing said replaying of said accompanying audio if a  
11     difference between said synchronization point and said time value exceeds a  
12     predefined amount so that said replaying of said operations can catch up to said  
13     accompanying audio.

1       11.     The method of claim 10 further comprising resuming said replaying of said  
2     accompanying audio if a difference between said synchronization point and a current  
3     time value exceeds a second predefined amount, said current time value being  
4     associated with said processing of said recorded user inputs.

1       12.     The method of claim 11 wherein said second predefined amount equals said  
2     predefined amount.

1       13.     The method of claim 10 further comprising displaying said synchronization  
2     point as a marker on a timeline, said timeline including time values extracted from  
3     said recorded user inputs.

1       14.     The method of claim 10 further comprising:  
2                 creating said synchronization point at a common point in a replay of  
3     said operations and said accompanying audio; and  
4                 associating said synchronization point with said accompanying audio.

1    15.    The method of claim 14 wherein said creating of said synchronization point  
2    includes creating said synchronization point in response to a user command.

1    16.    The method of claim 14 wherein said common point is at a point in time  
2    where there is no audio output of said accompanying audio.

1    17.    The method of claim 14 further comprising saving said synchronization point  
2    in a first file containing said accompanying audio, said first file being different than a  
3    second file containing said recorded user inputs.

1    18.    The method of claim 14 further comprising changing a time value of said  
2    synchronization point in response to a positional change of a marker of said  
3    synchronization point in a timeline.

1    19.    A storage medium readable by a computer, tangibly embodying a program of  
2    instructions executable by said computer to perform method steps for synchronizing  
3    operations in a computer environment with accompanying audio, said method  
4    comprising:

5                replaying said operations and said accompanying audio in said  
6    computer environment, said operations resulting from processing of recorded user  
7    inputs;

8                creating a synchronization point at a common point in said replaying  
9    of said operations and said accompanying audio; and

10              associating said synchronization point with said accompanying audio,  
11    said synchronization point providing a reference point to substantially synchronize  
12    said accompanying audio when said operations are replayed in a replay computer  
13    environment using said recorded user inputs.

1    20.    The storage medium of claim 19 wherein said creating of said synchronization  
2    point includes creating said synchronization point in response to a user command.

1    21.    The storage medium of claim 19 wherein said common point is at a point in  
2    time where there is no audio output during said replaying of said accompanying  
3    audio.

1    22.    The storage medium of claim 19, wherein said method further comprises  
2    obtaining a current time value associated with said processing of said recorded user  
3    inputs, said current time value corresponding to said synchronization point.

1    23.    The storage medium of claim 19, wherein said method further comprises  
2    saving said synchronization point in a first file containing said accompanying audio,  
3    said first file being different than a second file containing said recorded user inputs.

1    24.    The storage medium of claim 19, wherein said method further comprises  
2    changing a time value of said synchronization point in response to a positional change  
3    of a marker of said synchronization point in a timeline.

1    25.    The storage medium of claim 19, wherein said method further comprises:  
2                 detecting said synchronization point during a subsequent replay of said  
3    operations and said accompanying audio in said replay computer environment, said  
4    subsequent replay involving another processing of said recorded user inputs;  
5                 comparing said synchronization point with a time value associated  
6    with said another processing of said recorded user inputs; and  
7                 selectively pausing said subsequent replay of said accompanying audio  
8    if a difference between said synchronization point and said time value exceeds a  
9    predefined amount so that said subsequent replay of said operations can catch up to  
10   said accompanying audio.

1    26.    The storage medium of claim 25, wherein said method further comprises  
2    resuming said subsequent replay of said accompanying audio if a difference between  
3    said synchronization point and a current time value exceeds a second predefined  
4    amount, said current time value being associated with said another processing of said  
5    recorded user inputs.

1    27.    The storage medium of claim 26 wherein said second predefined amount  
2    equals said predefined amount.

1    28.    A storage medium readable by a computer, tangibly embodying a program of  
2    instructions executable by said computer to perform method steps for synchronizing  
3    operations in a computer environment with accompanying audio, said method  
4    comprising:

5                 replaying said operations in said computer environment, including  
6         replaying said accompanying audio, said operations resulting from processing of  
7         recorded user inputs;

8                 detecting a synchronization point during said replaying of said  
9         accompanying audio;

10               comparing said synchronization point with a time value associated  
11         with said processing of said recorded user inputs; and

12               selectively pausing said replaying of said accompanying audio if a  
13         difference between said synchronization point and said time value exceeds a  
14         predefined amount so that said replaying of said operations can catch up to said  
15         accompanying audio.

1    29.    The storage medium of claim 28, wherein said method further comprises  
2    resuming said replaying of said accompanying audio if a difference between said  
3    synchronization point and a current time value exceeds a second predefined amount,  
4    said current time value being associated with said processing of said recorded user  
5    inputs.

1    30.    The storage medium of claim 29 wherein said second predefined amount  
2    equals said predefined amount.

1    31.    The storage medium of claim 28 further comprising displaying said  
2    synchronization point as a marker on a timeline, said timeline including time values  
3    extracted from said recorded user inputs.

1    32.    The storage medium of claim 28 wherein said method further comprises:  
2                 creating said synchronization point at a common point in a replay of  
3    said operations and said accompanying audio; and  
4                 associating said synchronization point with said accompanying audio.

1    33.    The storage medium of claim 32 wherein said method further comprises  
2    wherein said creating of said synchronization point includes creating said  
3    synchronization point in response to a user command.

1    34.    The storage medium of claim 32 wherein said common point is at a point in  
2    time where there is no audio output of said accompanying audio.

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2    35.    The storage medium of claim 32 further comprising saving said  
3    synchronization point in a first file containing said accompanying audio, said first file  
4    being different than a second file containing said recorded user inputs.

1    36.    The storage medium of claim 32 further comprising changing a time value of  
2    said synchronization point in response to a positional change of a marker of said  
3    synchronization point in a timeline.